SSA-P102
SSA-P102T

Access Control Panel

user manual

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SAMSUNG

safety information

CAUTION

RISK OF ELECTRIC SHOCK.
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK) NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol indicates that dangerous voltage consisting a risk of electric shock is present within this unit.

This exclamation point symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING

- To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

WARNING

1. Be sure to use only the standard adapter that is specified in the specification sheet.
   Using any other adapter could cause fire, electrical shock, or damage to the product.
2. Incorrectly connecting the power supply or replacing battery may cause explosion, fire, electric shock, or damage to the product.
3. Do not connect multiple controllers to a single adapter. Exceeding the capacity may cause abnormal heat generation or fire.
4. Securely plug the power cord into the power receptacle. Insecure connection may cause fire.
5. When installing the controller, fasten it securely and firmly. The fall of controller may cause personal injury.
6. Do not place conductive objects (e.g. screwdrivers, coins, metal parts, etc.) or containers filled with water on top of the controller. Doing so may cause personal injury due to fire, electric shock, or falling objects.
7. Do not install the unit in humid, dusty, or sooty locations. Doing so may cause fire or electric shock.
8. If any unusual smells or smoke come from the unit, stop using the product. In such case, immediately disconnect the power source and contact the service center. Continued use in such a condition may cause fire or electric shock.
9. If this product fails to operate normally, contact the nearest service center. Never disassemble or modify this product in any way. (SAMSUNG is not liable for problems caused by unauthorized modifications or attempted repair.)
10. When cleaning, do not spray water directly onto parts of the product. Doing so may cause fire or electric shock.

CAUTION

1. Do not drop objects on the product or apply strong blows to it. Keep away from a location subject to excessive vibration or magnetic interference.
2. Do not install in a location subject to high temperature (over 50°C), low temperature (below 0°C), or high humidity. Doing so may cause fire or electric shock.
3. If you want to relocate the already installed product, be sure to turn off the power and then move or reinstall it.
4. Remove the power plug from the outlet when there is a lighting storm. Neglecting to do so may cause fire or damage to the product.

5. Keep out of direct sunlight and heat radiation sources. It may cause fire.
6. Install it in a place with good ventilation.
7. Avoid aiming the controller directly towards extremely bright objects such as sun.
8. Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
9. The Mains plug is used as a disconnect device and shall stay readily operable at any time.

FCC Statement

Caution : Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note : This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus.
13. Unplug this apparatus when a card is used. Use caution when moving the cart/ apparatus combination to avoid injury from tip-over.

14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as powersupply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

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product introduction

FEATURES

This is a state-of-the-art single door access controller device that provides a high level security system in an affordable price, meeting the needs in the security industry. With its user-friendly interface, this product enables user manipulation easy and simple for whatever you want to perform in a high level of stability.

With its user-friendly interface, it can register cards between 10,000 and 50,000, within which you can change, delete, and add them. The built-in event memory can save up to 50,000 instances of entires and alerts according to the number of registered cards. (However, the sum of the registered card count and the event count can not exceed 60,000.) And it also supports a separate event storage system for an input device that detects the most urgent events such as fire sensor and emergent input key preceding over other events from a remote site

You can connect a wide range of readers via the two reader ports, and operate the product in RF Card and RF Card + PW modes. 5 independent input ports can be used to connect to various devices such as Exit Buttons, Door Contact Sensors, PIR Sensors, and Window Breakage Sensors to reinforce security; this product is designed to detect any of these sensors cut off or short-circuited.

You can establish the independent or network connection via RS-232 or RS-422 communications. SSA-P102T is equipped with a built-in TCP/IP module, which enables you to establish LAN communications. All settings including card registration information, I/O settings, Real Time Clock, Time Schedules and all Event Transaction Reports can be downloaded /uploaded from/to the host computer with software supporting a variety of reporting formats.

Installed and managed inside the security zone for preventing the risk of damage, this product can implement a high level security access control system with multiple control options, best fit for access control and time & attendance management.

Standalone Operation

As it is equipped with two card readers, you can use this product to control the access on a single door. This controller determines to allow access by reading data from the card reader, and controls the open/close of the door relay and enables you to change other output settings. Upon receipt of an incoming external input signal (sensor or Exit button), it launches an output device such as the relay. This controller has an independent control system, assuring a normal operation regardless of problems on any other systems and, not affecting them in the reverse situation.

Data Maintenance

In the event of power failure, the controller retains all card information (user data) and the access/alert history (event data) until it is damaged on the memory.

Anti-Pass Back

A door has two card readers installed: one for the entrance, and the other for the exit, so anyone who enters should recognize his/her card on the reader at the entrance time before he can exit normally. If a person does not go under the card recognition process and just follows another person's way inside the door, the person is not allowed to exit when he/she recognizes the access card on exit card reader, and the anti-pass-back error (APB error) occurs which will be saved into the internal memory. And you can configure to output a signal through a specific pin when such an error occurs.

(Make your setting in the Application program (controlled access, time and attendance management, etc) – I/O Setup – APB Error)

Computer-based Management

All records of authorized or unauthorized accesses and any external signal will be saved in the internal memory. You can download such data onto your computer according to the specified communications protocol. With the downloaded data, you can store, process, create a report based on your query (access and alert details, etc) on the central computer.

Input Port Format Setup

It is equipped with 5 built-in input ports, 2 relay output ports, and 2 TTL output ports. You can use the input ports to receive signals from the Exit button and the fire sensor, and utilize this product to meet various situations such as attaching the door lock to any of the two relays. You can also set the output time for these output ports.

Time Scheduling

You can specify a time range during which a specific operation is performed. You can specify a specific time range for a schedule code, which will be transferred to the applicable device. You can specify up to 5 different time ranges for a day, ranging from Monday to Sunday including holidays. Each time schedule code can be applied with a single different (or same) holiday code.

Door Open Alarm and Forced Door Open Alarm

The Door Open Alarm function notifies the administrator that the door is still open if a door stays open after the normal door open time and the standby time (default: 3 seconds). (The output signal can be transferred via the output port, data on any abnormal state will be stored in memory, which will be transferred upon request from the PC software. The Forced Door Open Alarm function produces an alert when the Door Contact Sensor senses any forced opening of the door. (In case of a forced opened door, the product does not check the time out.)

Holiday Setup

You can specify a holiday (legal holiday or bi-weekly holiday) excluding Sunday. You can specify up to 32 holidays for a single holiday code. (Access can be permitted only for an allowable time range according to your time schedule setting) A holiday code can be assigned to the time schedule code.

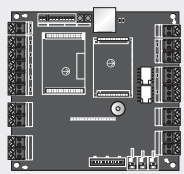
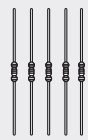
Duress Mode

This is used in a situation where you should open the door inevitably by a robber insisting to do so. Open the door by entering the two-digit duress alarm password and pressing the ENT button before presenting the registered card (or recognizing the card number), in the meantime this forcibly duress situation will be notified to the PC application. (This mode is enabled only if the product is connected to a key-based reader.)

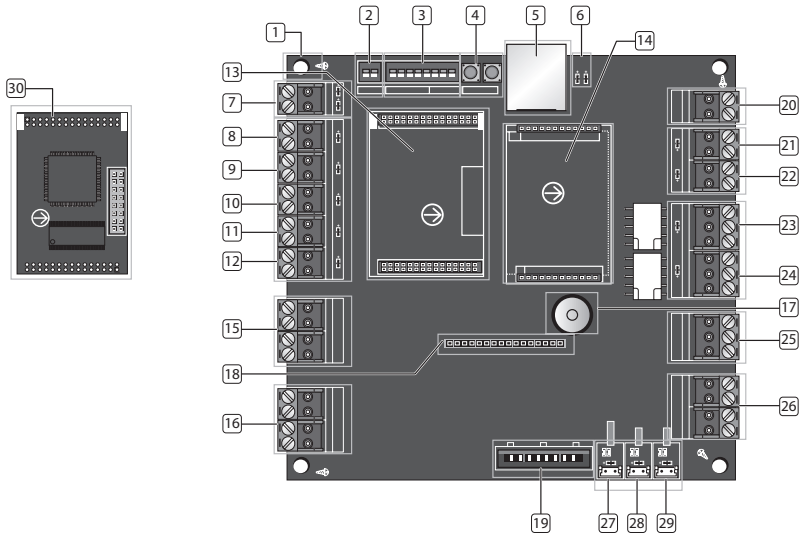
- All of the above mentioned functions can be enabled using the application (SAMS Basic).

WHAT'S INCLUDED

Check if the following items are included in the product package.

		
Main Unit	Quick Guide	CD Manual
		
Diode (x2) (UF4004, 1N4001~4007)	Resistor (x5) (2.2kΩ, 1/4W)	

Main Board

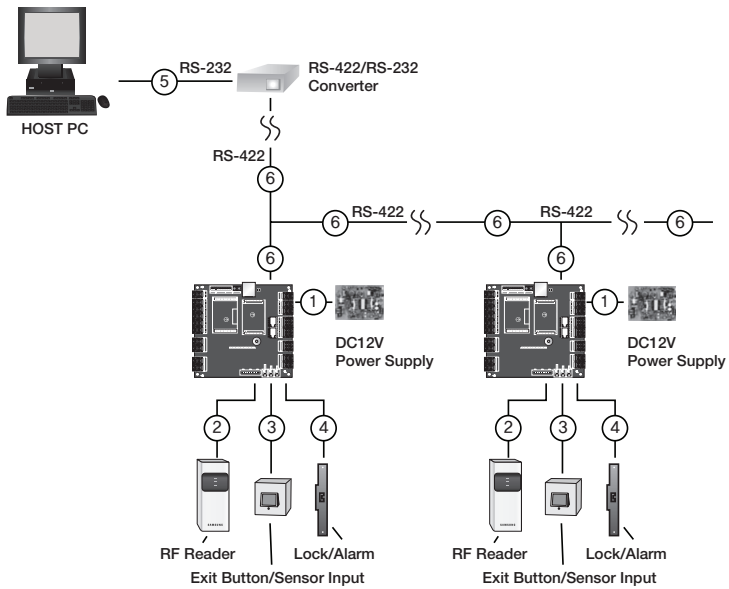


1	Fixing Hole	Used to attach SSA-P102 to the closure using a metal supporter. (Ensure that you use the metal supporter to prevent the EMI.)
2	2Pin DIP Switch	Used to set the type of a connected reader to either 26bit Wiegand or 34bit Wiegand.
3	8Pin DIP Switch	The device address and communication speed specified by the applicable switch should be consistent with those of the computer that is used for communications. (Address Setting: Pin 1 to Pin 5 of the DIP Switch, Communication Speed: Pin 6 to Pin 8 of the DIP Switch)
4	System Initialize Switch	Pressing both of the switches at the same time for about 2 seconds will sound initialization ready beep. Releasing both switches will stop the beep, and restarts the system after the initialization.
5	RJ-45	Connect the LAN cable for TCP/IP communications.
6	LED	Indicates the state of the LAN communications.
7	RL#1, RL#2	Ports where the buzzer control line or the LED control line of the reader is connected to display the operation status of Relay 1 or Relay 2.
8	Input #5	Input Port: The flashing LED indicator denotes that a signal is sensed by the port.
9	Input #4	Input Port: The flashing LED indicator denotes that a signal is sensed by the port.

product introduction

10	Input #3	Input Port: The flashing LED indicator denotes that a signal is sensed by the port.
11	Input #2	Input Port: The flashing LED indicator denotes that a signal is sensed by the port. (connected to the Door Contact Sensor.) All other sensors are not allowed.
12	Input #1	Input Port: The flashing LED indicator denotes that a signal is sensed by the port. (connected to the Exit button.) All other input sources are not allowed.
13	MCU Module Connection Port	MCU module connection port. Do not disassemble it at will.
14	TCP/IP Module Connection Port	SSA-P102T comes with the TCP/IP module.
15	Reader #2	Reader port.
16	Reader #1	Reader port.
17	BUZZER	It will sound beeps on system initialization to the configured output depending on the buzzer control settings.
18	LCD Connection Port	Optional item.
19	Keypad Connection Port	Optional item.
20	Power Connection Port	SSA-P102 uses DC +12V for its power source.
21	TTL Output #1	TTL output port.
22	TTL Output #2	TTL output port.
23	Relay Output #1	Relay output port.
24	Relay Output #2	Relay output port.
25	RS-232	RS-232 communication port. Used to exclusively connect to a PC in a local area.
26	RS-422	RS-422 communication port. Used to connect to a PC in a remote area. You can establish up to 32 multi-drop communications.
27	Power LED	Displays the status of the power supply.
28	RX LED	Displays the signal reception status while in communications.
29	TX LED	Displays the signal transmission status while in communications.
30	MCU Module	MCU module.

CABLE SELECTION



Item		Cable Type
1	DC 12V Product Power → This product	Belden #9409, 18 AWG 2 Conductor, Unshielded
2	Reader (Power and Data) External Reader → This product	Belden #9512, 22 AWG 4 Conductor, Shielded
		Belden #9514, 22 AWG 8 Conductor, Shielded
3	Door Contact Sensor Exit Button Sensor Input Input → This product	Belden #9512, 22 AWG 4 Conductor, Shielded
		Belden #9514, 22 AWG 8 Conductor, Shielded
4	Door Lock Alarm Device Lock (Alarm) → This product	Belden #9409, 18AWG 2 Conductor, Unshielded
5	RS-232 Cable Converter → Host P.C.	Belden #9829, 24 AWG 2-twisted pair, Shielded
6	RS-485 Cable SSA-P102 → SSA-P102 SSA-P102 → Converter	Belden #9829, 24 AWG 2-twisted pair, Shielded
	RS-422 Cable SSA-P102 → SSA-P102 SSA-P102 → Converter	Belden #9830, 24 AWG 3-twisted pair, Shielded

▪ The cables should be thick enough to allow the maximum current consumed by the reader.

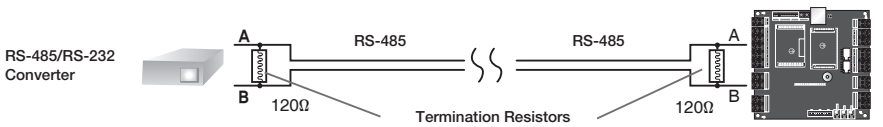
installation and external connection

CONNECTING THE TERMINATION RESISTOR AND DIODE

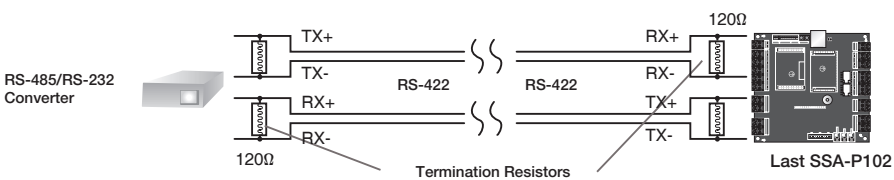
Termination Resistor

A resistor is inserted for matching the line's impedance to prevent distortion and reduction in RS-422 or RS-485 long distance data communications, which is referred to as termination resistor.

Note that termination resistors of lower than 90Ω are not allowed, neither more than one termination resistor is accepted for the communications system.



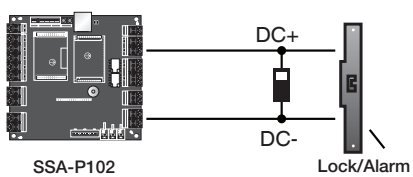
<Termination Resistor in RS-485 Communication>

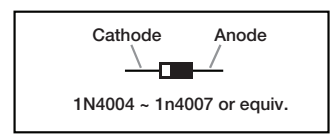


<Termination Resistor in RS-422 Communication>

Bypass Diode Connection

If you connected an inductor (door lock or alarm device) to the output relay, there should occur a voltage surge while the inductor was between turning on and turning off. If you do not connect a bypass diode to the relay, the voltage surge will cause damage to the electric circuit of the controller. To reduce this surge, it is recommended to connect a bypass diode to the relay.





EARTH-GROUNDING THE COMMUNICATION CABLES

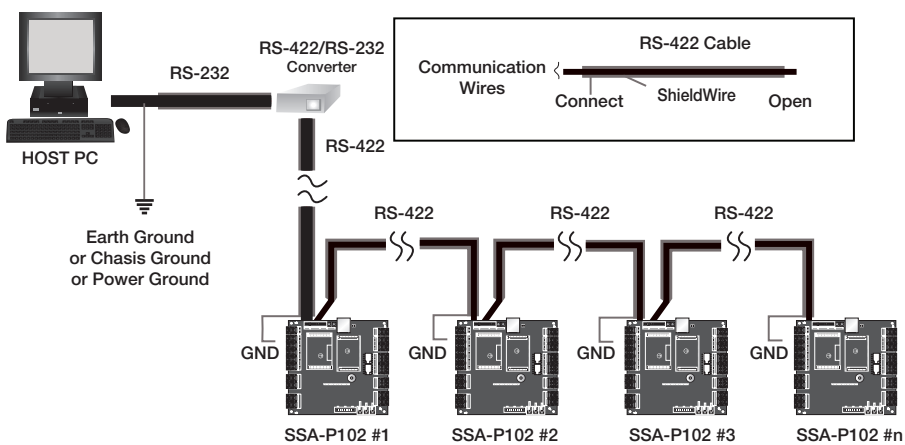
We recommend you to use a proper grounding system for the communication cables.

The best grounding method is to earth-ground the shield wire of the communication cable. However, the earth-grounding of the communication cable is not easy at all, and it also causes an increased installation cost. There are three grounding points available for installation:

1. Earth Ground
2. Chassis Ground
3. Power Ground

The most important thing about the earth-grounding lies in connecting neither end of the shield wire to the grounding system simultaneously. This will cause a current flow through the shield wire when the voltage level of both ends of the shield wire is not equal and this current flow will introduce some noise and interference to communications.

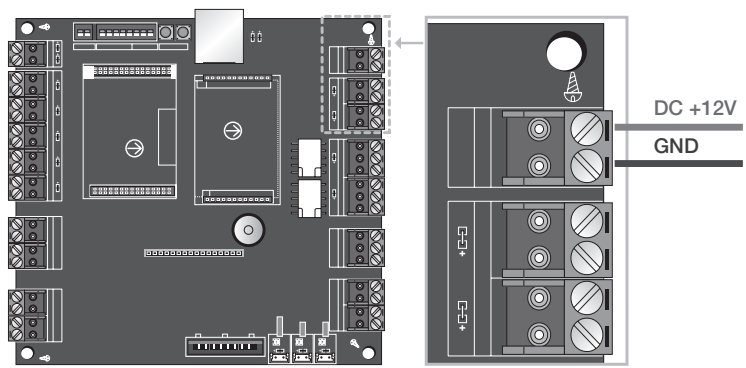
It is recommended to connect ONLY one end of the shield wire of the communication cable to the grounding system. If you can locate an earth-grounding point nearby, connect one end of the shield wire to that point. If you could hardly locate an earth grounding point nearby, connect one end of the shield wire to the chassis ground point. If you could locate neither of an earth or chassis grounding point nearby, connect one end of the shield wire to the power ground point (GND). Note that if the chassis ground is not properly connected to the earth and floated from the ground level, grounding to the chassis ground will yield the worst communication performance. If this is the case, use the power ground point rather than the chassis ground.



POWER, READER, AND I/O CONNECTION

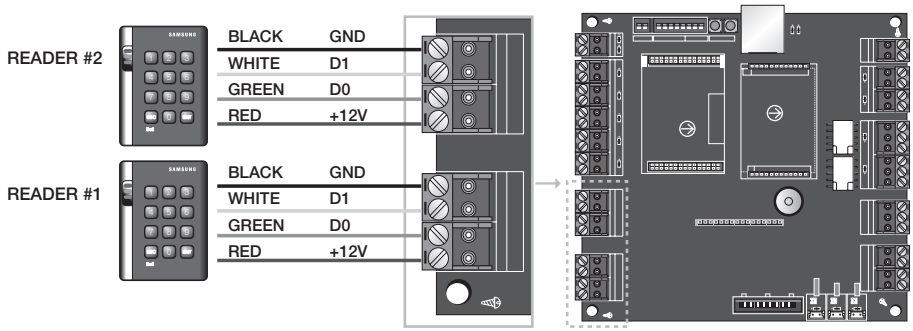
Power Connection

Check the location of the power port.



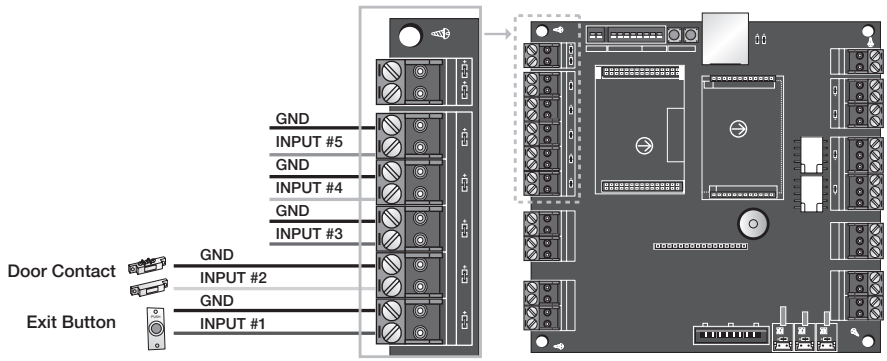
- Connect the plus (+) line of DC 12V to the corresponding port (+12V).
- Connect the plus (-) line of DC 12V to the GND (-) port.

Reader Connection



- You can safely use other power sources for the reader than supplied from the specified port; however, all power sources should be connected to the common GND port. Failure of the GND grounding will cause a transfer error of Wigand data to the controller due to a voltage difference.
  Connect Wiegand Data Output 0 of the proximity reader to the D0 port and connect Wiegand Data Output 1 to the D1 port of P102(T).

Input Connection



- The Input #1 and Input #2 ports have the Exit button and the Door Contact Sensor installed, while Input #3 to Input #5 can be configured to your preference.

- Exit Button Connection

  Connect one line of the Exit button to IN 1.
  Connect the other line of the Exit button to GND.

- Door Contact Sensor Connection

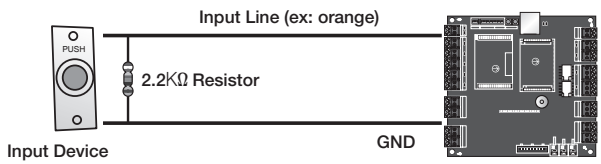
  Connect one line of the Door Contact Sensor to IN 2.
  Connect the other line of the Door Contact Sensor to GND.

- Auxiliary Device Connection (AUX #3, AUX #4, AUX #5)

  Connect one line of the auxiliary input device to any one of IN3, IN 4, and IN 5.
  Connect the other end of the auxiliary input device to GND.

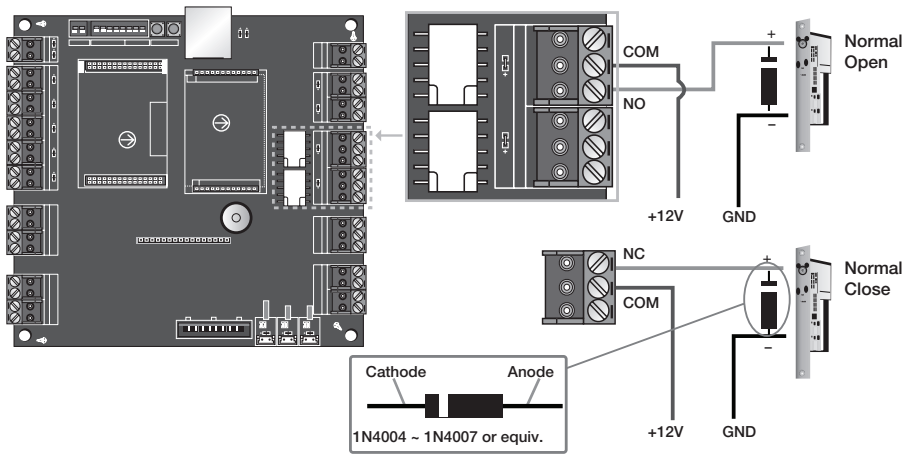
- 2.2kΩ Resistor Connection for Short-Circuit Check

1. To enable the short-circuit check function, you must have connected a 2.2KΩ resistor between the input line (ex: orange) and the ground line (GND). First, specify if you check each input device for any short circuit.
2. Using the input port/DIP switch test, you can check if the short-circuit resistor is properly connected.



installation and external connection

Output Connection



- According to the operation mode, the Door Lock type is classified in two: NC (Normal close) and NO (Normal Open). Make the connection as appropriate.

- To prevent a risk of voltage surge during the lock operation, it is recommended to use the bypass diode.

- If the Door Lock type is POWER FAIL SAFE

1. Connect the COM (common) line of the Door Lock relay to DC +12V.
2. Connect the plus (+) line of the Door Lock to the Normal Close (NC) line of the Door Lock relay.
3. Connect the minus (-) line of the Door Lock to the grouding line, GND.

- If the Door Lock type is POWER FAIL SECURE

1. Connect the COM (common) line of the Door Lock relay to DC +12V (red).
2. Connect the plus (+) line of the Door Lock to the Normal Open (NO) line of the Door Lock relay.
3. Connect the minus (-) line of the Door Lock to the grounding line, GND.

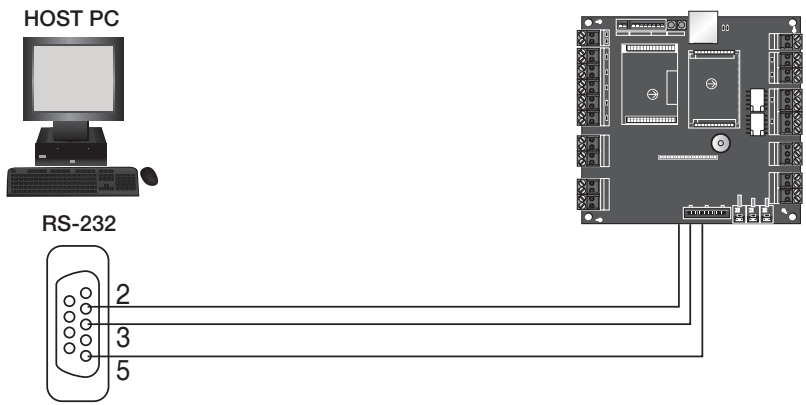
Alarm Device Connection

1. Connect the COM line of the alarm device relay to DC +12V.
2. Connect the plus (+) line of the alarm device to NO.
3. Connect the minus (-) line of the alarm device to the grounding line, GND.

COMMUNICATION LINE CONNECTION

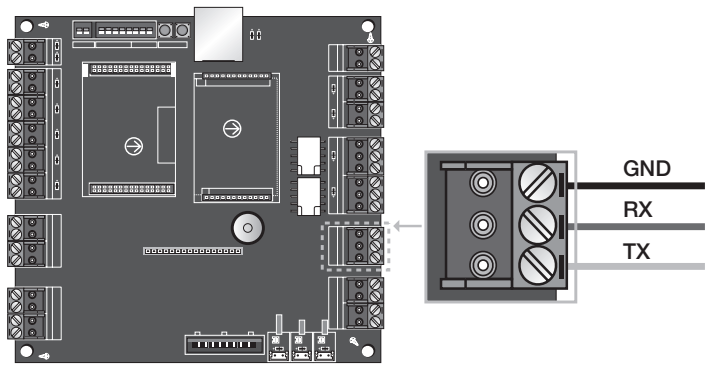
RS-232 Communication Port Connection

A 9-pin connector for serial communication is required to make connection to the PC.
Connect the 9 pin connector for RS-232 communications as follows:



9-Pin Female Connector

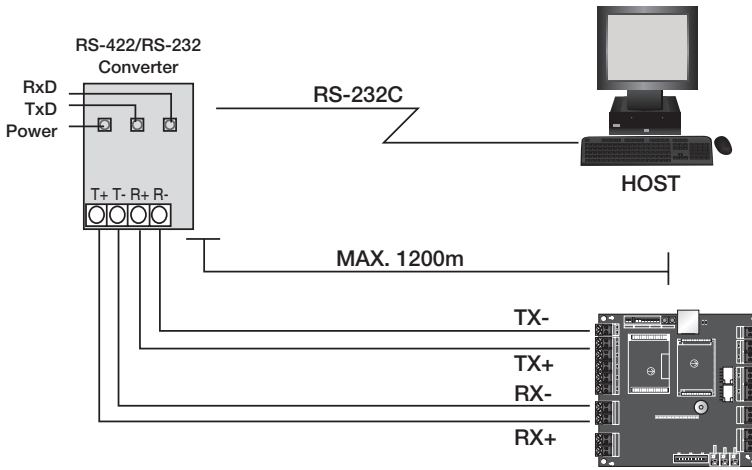
1. Connect RS-232-TX to pin #2 of the 9-pin connector.
2. Connect RS-232-TX to pin #3 of the 9-pin connector.
3. Connect RS-232-GND to pin #5 of the 9-pin connector.
4. Connect the serial communication connector to the serial COM port of the computer.
5. Install and launch the application (SAMS).



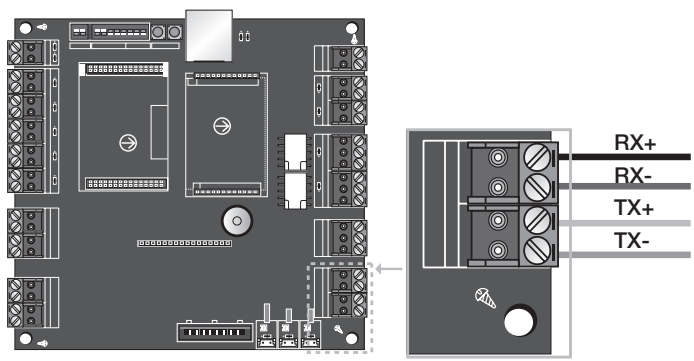
- Check the location of the communication port.

RS-422 Communication Port Connection (Standalone)

The RS-422/RS-232 converter is required to establish RS-422 communications. Connect the 9-pin connector of the RS-422/RS-232 converter as follows:



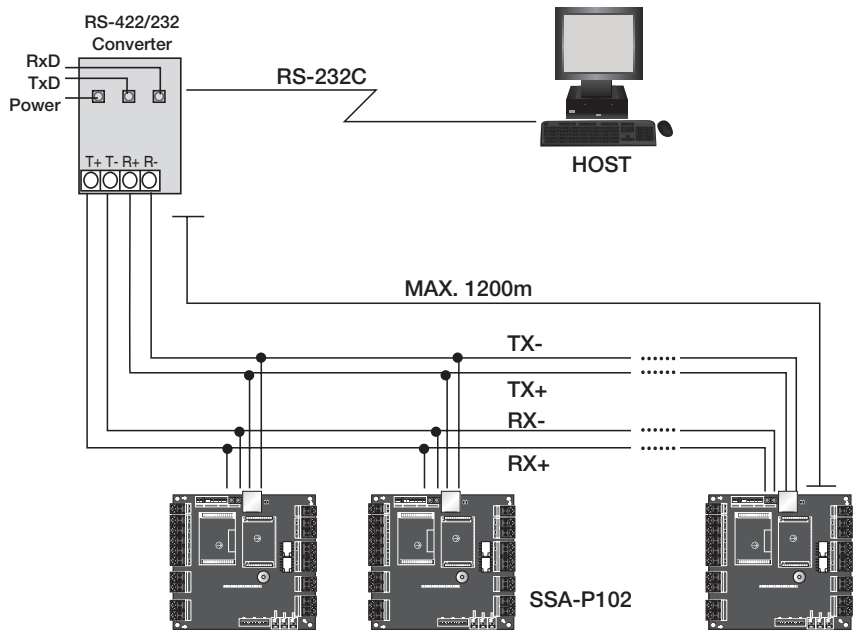
1. Connect RS-422-TX(-) to the RX(-) port of the converter.
2. Connect RS-422-TX(+) to the RX(+) port of the converter.
3. Connect RS-422-RX(-) to the TX(-) port of the converter.
4. Connect RS-422-RX(+) to the TX(+) port of the converter.
5. Connect the 9-pin connector of the RS-422/RS-232 converter to the serial COM port of the computer.
6. Install and launch the application (SAMS).



- Check the location of the communication port.

RS-422 Communication Port Connection (Multiple Units)

The RS-422/RS-232 converter is required to establish RS-422 communications with SSA-P102.



- Follow the guidelines below to make connection between devices.

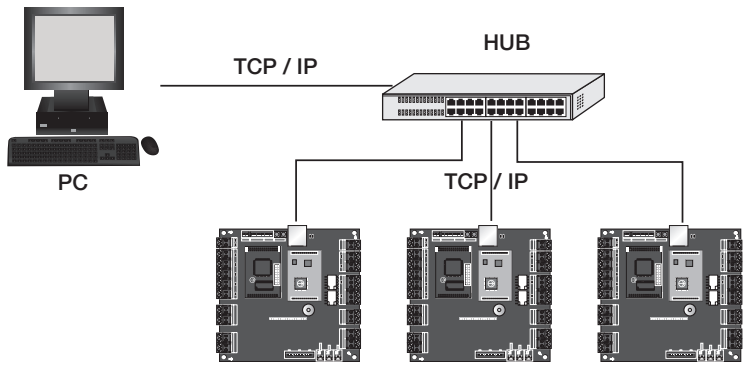
1. Connect TX(-) of one device to TX(-) of other one.
2. Connect TX(+) of one device to TX(+) of other one.
3. Connect RX(-) of one device to RX(-) of other one.
4. Connect RX(+) of one device to RX(+) of other one.
5. Set a unique board ID for each product.

- Follow the guidelines below to make connection between the terminal device and the RS-422 9-pin connector of the RS-422/RS-232 converter.

1. Connect RS-422-TX(-) to the RX(-) port of the converter.
2. Connect RS-422-TX(+) to the RX(+) port of the converter.
3. Connect RS-422-RX(-) to the TX(-) port of the converter.
4. Connect RS-422-RX(+) to the TX(+) port of the converter.
5. Connect the 9-pin connector of the RS-422/RS-232 converter to the COM port of the computer.
6. Install and launch the application (SAMS).

TCP/IP Communication Port Connection

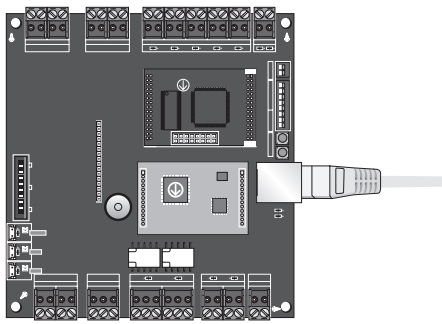
1) TCP/IP Communication Connection



- SSA-P102T is required to establish TCP/IP communications.

2) Cabling

Connect the LAN cable to the TCP/IP RJ-45 jack as shown.



1. Connect the RJ45 jack of the unit to the RJ45 plug, the LAN cable of the network system.
2. Set a unique communication address (COMM ADDR) for each unit
3. Install and launch the application (SAMS).

initialization

SYSTEM INITIALIZATION

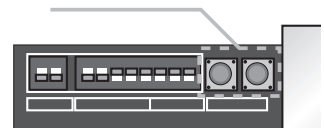
Initializing the system using the Initialize switch

Apply the power and initialize the system by using the initialization switch.

1. Locate the Initialize switch ( ) on the upper right corner and press both switches simultaneously.

- Pressing both of the switches at the same time for about 2 seconds will sound initialization ready beep. Releasing both switches will stop the beep, and restarts the system after the initialization.

Initialize Switch



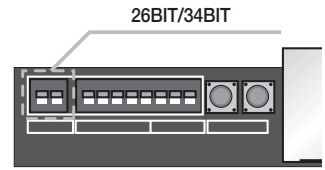
- Initializing the system restores all your settings to the default, consequently all ID data will be lost.
- Do not turn off the product until the initialization process is completed.

READER INPUT BIT SETUP

1. The initial value of the switch is "0", and all of the two switches are defaulted to OFF.

- The default setting is 26BIT.

26BIT/34BIT



❖ **Use the switch to set the value.**

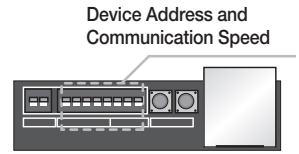
For 26 Bit Wiegand		Not used	
For 34 Bit Wiegand			

- You can not configure any setting for a device that contains ID data. Further setting is enabled when the card ID has been deleted or when you complete initializing the system. (It is recommended to configure the settings as necessary in the installation stage.)
- Select one from 26BIT and 34BIT.
- Below is a list of compatible readers.
  26bit Reader : SSA-R20X0/SSA-R1000/SSA-R1100/SSA-R2000
  34bit Reader : SSA-R20X1/SSA-R1001/SSA-R1101/SSA-R2001

initialization

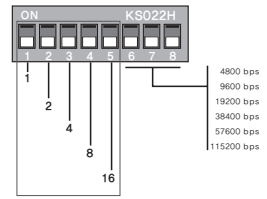
BOARD ID SETTING

Each device in the multi-serial communication connection is assigned with a unique number to identify each other.

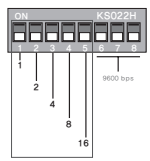
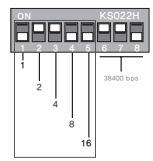
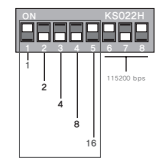


1. The initial value of the switch is "0", and all of the 8 switches are defaulted to OFF.

2. Each switch has a unique value, and the board ID is the sum of the values of the switches.
   - You can specify a value between 0 and 31 for the board ID.



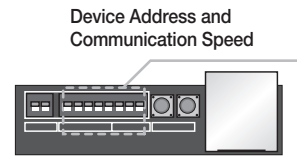
❖ **Refer to the example below for the board ID.**

Example 1	Example 2	Example 3
		
Board ID: 0 (default)	Board ID: 2+4 = 6	Board ID: 1+16 = 17

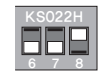
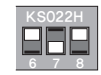
- The board ID becomes the address of the device so the controllers in the same loop should be identified with each other.

COMMUNICATION SPEED SETUP

1. The initial value of the switch is "0", and all of the 8 switches are defaulted to OFF.



2. Each changing the switch makes a beep, and the communication speed changes immediately upon the switch setting.
   - Use the switch to set the value.

9600 bps (Default Setting)	4800 bps	19200 bps	38400 bps	57600 bps	115200 bps
					

- You can select only one value from the 6 examples below for the communication speed.
- However, the communication speed should match that of the host PC.

TROUBLESHOOTING

If the product does not function properly, please see the below for trouble shooting.

PROBLEM	ACTION
Can I specify RF only or RF+P/W mode differently according to the card?	1) It is not available. 2) The mode is defined for each reader device, not the card. Thus, you can not specify the mode for each card differently.
Ever since I mass-transferred data using the PC application, some cards are not allowed for access.	1) You might have not saved card information to the PC, but just to the device when registering card using the PC application. 2) Check if there is a registered, but disallowed card in the PC. 3) For an unregistered card, try to enter it again and save to the PC before transferring to the device. 4) The Mass Transfer/Group Transfer function of the PC application will delete all card data in the device before transferring the PC data to the device. As such, if you usually register one card on a daily basis, you may not save it to the PC but transfer to the device, which causes unsaved card numbers not to be registered with the device in the operation of a mass-transfer. 5) If this is not the case, the problem may be caused by the defective of an internal circuit. Contact the nearest customer service for technical assistance.
A RF card is normally recognized by my presenting it to the reader but is not recognized using the keypad.	If the keypad operation does not work at all as a means of authenticating the card, use the PC application to check if the reader is set to use the keypad values.
The reader reads a card normally but no reaction is made to other device or an irrelevant card number is displayed.	1) Check the power source of the reader. (Check if the LED indicator of the reader is blinking when it has read a card.) 2) Check if the reader works properly. (Disconnect the reader from the system and use a measuring device such as an oscilloscope to measure the output port of the reader.) 3) Check if the reader is properly connected to the system. - Check if the Wiegand communication line between the reader and the system is properly established. (D0, D1) - The Wiegand communication line should be connected to GND. (A different power source may be fine but the earth-grounding point should be connected to GND of the device. 4) If you find the output signal but with severe noise when using a measuring device to measure the Wiegand communication line, please check the followings: - Connect the shield wire and the spare wire of the cable to GND. - Use the repeater. 5) If the problem persists after you followed the instructions above, please contact the customer service for technical assistance.

troubleshooting

The reader reads a card normally but no reaction is made to SSA-P102 or an irrelevant card number is displayed.

1) Check the power source of the reader.
(Check if the LED indicator of the reader is blinking when it has read a card.)
2) Check if the reader works properly.
(Disconnect the reader from the system and use a measuring device such as an oscilloscope to measure the output port of the reader.)
3) Check if the reader is properly connected to the system.
- Check if the Wiegand communication lines between the reader and the system are properly established. (D0, D1)
- The Wiegand communication line should be connected to GND.
(A different power source may be fine but the earth-grounding point should be connected to GND of the device.)
4) If you find the output signal from SSA-P102 but with severe noise when using a measuring device to measure the Wiegand communication line, please check the followings:
- Connect the shield wire and the spare wire of the cable to GND.
- Use the repeater.
5) If the problem persists after you followed the instructions above, please contact the customer service for technical assistance.

No communication is available when the system is in sync with the PC.

1) Check the communication settings between the PC application and the device.
- Check the board ID (COMM address) and match it with that of the PC application.
- Specify a unique board ID (COMM address) for each of the multiple devices.
- Check the baud rate if it matches with the PC application.
- Check if the communication port of the PC matches that of the PC application.
- Check the communication settings of the PC application.
Parity Bit : NONE, Data Bit: 8bit, Stop Bit: 1bit
2) Check the connection staus of RS-232 and RS-422.

RS-232		RS-422 (Independent Communication)		
SSA-P102	PC	SSA-P102	RS-232/422 Converter	PC
TX Port	RX	RX(-)	TX(-)	Connected to the RS-232 cable of the converter
RX Port	TX	RX(+)	TX(+)	
GND	GND	TX(-)	RX(-)	
		TX(+)	RX(+)	

RS-422(Multi-Unit Communication)			
SSA-P102	SSA-P102	RS-232/RS-422	PC
RX(-)	RX(-)	TX(-)	Connected to the RS-232 cable of the converter
RX(+)	RX(+)	TX(+)	
TX(-)	TX(-)	RX(-)	
TX(+)	TX(+)	RX(+)	

For RS-422 communications, install a termination resistor at the point where the system is connected to the RS-422/RS-232 converter of the PC.
(Install a 120Ω termination resistor between the RX+ and the RX- terminals on the device side, another 120Ω between the TX+ and the TX- terminals; the same should be done to the converter. If you are not sure about the wiring, contact the customer service for your help.)
If the problem persists after you followed the instructions above, this may be caused by the defective of an internal circuit. Contact the customer service.

✳ If no communication is established after you tried to do so with multiple devices, pick just one device and connect it to the RS-232/RS-422 converter, and to the PC. Then, check if there is any communication available.

product specifications

PRODUCT SPECIFICATIONS

Item	SSA-P102	SSA-P102T
Users	10,000 ~ 50,000 Users (Default: 10,000)	
Event Buffer	50,000 ~ 100,000(Default: 50,000)	
Power / Current	DC 12V / Max.120mA	DC12V / Max. 170mA
Reader Port	2ea : 26bit/ 34bit Wiegand(Selectable), 4 / 8bit Burst for PIN	
Door Open Time	00~99 Sec. (Default 3Sec.)	
Communication	RS-232 / RS-422 / RS-485	RS-232 / RS-422 / RS-485 / TCP/IP
Baud Rate(bps)	4800/ 9,600/ 19,200/ 38,400/ 57,600(default)/ 115,200(selectable)	
Input Port	5ea : Exit Button, Door Sensor, Aux#1,#2, #3	
Output Port	2ea : 2 FORM-C Relay Output (COM, NO, NC) / DC12V~18V, Rating Max.2A	
	2ea: TTL Output / DC5V, Rating Max.20mA	
LED Indicator	16 LED Indicators (Red, Blue and Yellow)	
Beeper	Piezo Buzzer	
Operating Temperature	0°C to +50°C	
Operating Humidity	10% to 90% relative humidity non-condensing	
Color / Material	Black/ PCB	
Dimension (W x H x D(mm))	137 x 137 x 18	
Weight	160g	170g

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

Correct disposal of batteries in this product

(Applicable in the European Union and other European countries with separate battery return systems.)

This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.

To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.

SALES NETWORK

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